61. (New) A method according to claim 59, wherein said digital signal processing is performed in an adaptive digital signal processor with a programmed controller providing coding and decoding functions adapted to a particular communication service requested by said signal and the physical level of signal protocol used over said local link from said customer premises.

REMARKS

Reconsideration and allowance are respectfully requested. The specification was objected to by the Office Action. Applicants have amended the specification in order to correct a spelling informality. Claims 1-13, 17-29, 33, and 46 stand rejected by the Office Action. Claims 14-16, 30-32, 34-45, and 47 are objected to by the Office Action. Applicants have amended Claims 1, 10-11, 13-15, 18-19, 25-27, 36-37, 40-41, 43, and 45-48 in order to clearly point out the claimed subject matter of the invention. Applicants have added new Claims 49-61. Therefore, in light of the claim amendments and additions, Claims 1-61 are currently pending. No new matter has been added.

I. Formal Matters.

1. Applicants respectfully request that the United States Patent & Trademark Office change the Attorney Docket Number from 50107-397 to **65632-0140** in order to properly reflect the correct Attorney Docket Number.

2. The specification was objected to by the Office Action. On page 2, lines 3-4, the Office Action notes that the term "plant" appears to refer to the term "plan." Applicants have made the appropriate correction to the 1st full paragraph on page 3, lines 10-26 of the originally filed specification. Withdrawal of the formal objection is therefore respectfully requested. Applicants thank the Examiner for the helpful suggestion.

3. Claim 47 was objected to by the Office Action because of the inclusion of the "local ink" limitation. Applicants have amended "local ink" to read as "local link." Applicants thank the Examiner for the helpful suggestion.

The Office Action also indicates that Claim 47 contains allowable subject matter if rewritten in independent form, including the limitations of base Claim 46. Applicants thank the Examiner for the helpful suggestion; however, Applicants have amended independent base Claim 46, for reasons explained below in Section II, sub-section 2. Therefore, Claim 47, which depends from base Claim 46, is in allowable form. Applicants respectfully requests that the objection to Claim 47 is withdrawn.

4. Applicants thank the Examiner for indicating the allowance of independent base Claim 48.

5. Applicants thank the Examiner for indicating that independent base Claims 37 and 41 and related dependant Claims 38-40 and 42-45, respectively, would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, second paragraph. Applicants have amended Claims 37, 40-41, 43, and 45, where necessary, to overcome the 35 U.S.C. § 112, second paragraph, rejections. Therefore, Claims 37-45 are in allowable form. Applicants respectfully requests withdrawal of the rejections.

6. Applicants thank the Examiner for indicating that dependant Claims 14-16, 30-32, and 34-36 would be allowable if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, second paragraph, including all of the limitations of the base Claim and any intervening Claims. Applicants have amended independent base Claims 1, 27 and dependent Claims 14-15, and 36, where necessary, to overcome the 35 U.S.C. § 112, second paragraph, rejections. Even further, Applicants have added new Claims 53-61. More specifically:

- Base Claim 53 substantially incorporates the subject matter of independent base Claim 1 and dependant Claim 14, indicated as containing allowable subject matter;

- Base Claim 54 substantially incorporates the subject matter of independent base Claim 1 and dependant Claim 15, indicated as containing allowable subject matter.
- Claim 55 substantially incorporates the subject matter of dependant Claim 16 and depends directly from base Claim 54. Claim 16 depends directly from Claim 15;
- Base Claim 56 substantially incorporates the subject matter of independent base Claim 27 and dependant Claims 28, 29, and 30, indicated as containing allowable subject matter;
- Claim 57 substantially incorporates the subject matter of dependant Claim 31 and depends directly from base Claim 56. Claim 31 depends directly from Claim 30;
- Claim 58 substantially incorporates the subject matter of dependant Claim 32 and depends indirectly from base Claim 56. Claim 32 depends directly from Claim 31;
- Base Claim 59 substantially incorporates the subject matter of independent base Claim 27 and dependant Claims 33 and 34, indicated as containing allowable subject matter;
- Claim 60 substantially incorporates the subject matter of dependant Claim 35 and depends directly from base Claim 59. Claim 35 depends directly from Claim 34;
- Claim 61 substantially incorporates the subject matter of dependant Claim 36 and depends directly from base Claim 59. Claim 36 depends directly from Claim 34.

Therefore, because the Office Action indicated that Claims 14-16, 30-32, and 34-36 contained allowable subject matter if rewritten or amended to overcome the rejections under 35 U.S.C. § 112, second paragraph, including all of the limitations of the respective base Claims 1, 27 and any intervening Claims, new claims 53-61 are in allowable form.

II. The Claims Define Patentable Subject Matter.

1. Claims 1-45 were rejected under 35 U.S.C. § 112 as being indefinite for failing to particularly point out and distinctly claim the subject matter of the invention. The rejection is respectfully traversed.

The Office Action rejects Claims 1, 13, 15, 19, 25, 36, and 37 for reasons of a lack of antecedent basis. Applicants have amended Claims 1, 13, 15, 19, 25, 36, and 37, where necessary, to overcome the rejections.

The Office Action also rejects Claims 27, 37, 40-41, and 43 for reasons of indefiniteness as a result of not clearly pointing out the meaning of a claimed term. Applicants have amended Claims 37, 40-41, and 43, where necessary, to overcome the rejections. With respect to Claim 27, Applicants respectfully submits that adequate support for Claim 27 is provided in the originally filed specification, starting at page 8, line 9 to clearly define "solid state switching said signal to digital signal processing and a wide band." Therefore, an amendment to Claim 27 is not necessary to clearly point out the subject matter of the claimed invention.

For at least amendments and the reasons explained above, Claims 1, 13, 15, 19, 25, 27, 36-37, 40-41, and 43 are allowable over the applied art. Claims 2-12, 14-17, 20-24, 29-36, 38-49, 42, and 44-45, which depend directly or indirectly from Claims 1, 13, 15, 19, 25, 27, 36-37, 40-41, and 43 are also allowable over the applied art. Withdrawal of the rejection is respectfully requested.

2. Claims 1, 5-7, 10-13, 17-18, 20, 22-27, 33, and 46 were rejected under 35 U.S.C. § 102(e) as being unpatentable over U.S. 6,314,102 to Czerwiec et al. ("Czerwiec"). Applicants respectfully traverse this rejection.

Czerwiec arguably teaches an Asymmetric Digital Subscriber Line (ASDL) shelf 34 that includes high pass filter 38, a low pass filter 40, a network termination (NT) card 60, and a line termination (LT) card 62. See: Figure 2. However, Czerwiec *does not* disclose a monitor or signal detector (element number 21) integrated with a line unit/card (element number 22). See: Figure 3, page 15, line 20 – page 19, line 3 of Applicants' originally filed specification.

Applicants have amended rejected base Claims 1, 18, 27, and 46 to include the limitation of a monitor. Therefore, Czerwiec does not anticipate the claimed invention. Also, Applicants have added new Claims 49-52 to indicate that the monitor includes scan point matrix switches, a signal processor, and a controller, wherein the controller is located in the line unit. See: page 20, lines 22-26 of Applicants' originally filed specification.

The Office Action also rejects dependant Claims 10, 11, 25, and 26, by citing Figure 10 and col. 17, lines 35-43 of Czerwiec. More specifically, Figure 10 and col. 17, lines 35-43 of Czerwiec indicates that the front-end digital signal processor (DSP) chip is part of the LT card 14a. Conversely, Applicants have amended dependant Claims 10, 11, 25, and 26 in order to clearly point out that the DSP (element number 28) is either directly or indirectly associated with said line unit. See: Figure 3, page 23, lines 1-15 of Applicants' originally filed specification.

For at least these reasons, Claims 1, 18, 27 and 46 are allowable over the applied art. Claims 5-7, 10-13, 17, Claims 20, 22-26, Claim 33, and Claim 47, which depend from Claims 1, 18, 27, and 46, respectively, are also allowable over the applied art. Withdrawal of the rejection is respectfully requested.

3. Claims 2-4, 8-9, 19, 21, and 28-29 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Czerwiec in view of AT&T (Lucent) System Description 235-100-125 September, 1995, which is instant prior art ("IPA") provided by the Applicants, as cited at page 6, line 9 of the Applicants' originally filed specification. Applicants respectfully traverse this rejection.

Applicants agree with the Office Action that Czerwiec does not disclose or suggest "*said portion of said line comprising a concentrator of said line unit, as in claims 2, 19; said converter comprising CODEC, as in claim 3; said concentrator includes a switching system, as in claims 4, 21; said switching system comprising GDX cross point switching, as in claim 8; said switching system comprising cross point switching, as in claims 9, 28; said cross-point switching is performed in a line unit in said network, as in claim 29.*" See: page 6, lines 4-9 of the Office Action.

Applicants also respectfully submit that the IPA does not disclose or suggest a monitor or signal detector integrated with the line unit/card. Because the combination of Czerwiec and the IPA does not disclose, teach, or suggest the claimed monitor as recited in independent base Claims 1, 18, or 27, the Office Action fails to establish a prima facie case of obviousness (See MPEP §2143). For at least this reason, Claims 1, 18, and 27 are allowable over the applied art. Claims 2-4, 8-9, Claims 19, 21, and Claims 28-29, which depend from Claims 1, 18, and 27, respectively, are also allowable over the applied art for at least the reasons explained above in Section II, sub-section 2. Withdrawal of the rejection is respectfully requested.

Conclusion

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited.

Any fees associated with the filing of this paper should be identified in any accompanying transmittal. However, if any additional fees are required, they may be charged to Deposit Account 18-0013 in the name of Rader, Fishman & Grauer PLLC.

Respectfully submitted,

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Marked-up Version of the Claims

1. (Once Amended) A method comprising:

a. requesting from a customer premises terminal a local link to a line unit and telephone network switch in a switched telephone network a communication path to a destination;

b. detecting, via a monitor, that the requesting step does not seek conversion in said line unit;

c. connecting said terminal through a portion of said line unit around a converter in said line unit to a wide band data switch connected to a data network.

10. (Once Amended) A method according to claim 7, wherein said digital signal processor is indirectly associated with said line unit.

11. (Once Amended) A method according to claim 7, wherein said digital signal processor is directly associated with said wide band data switch.

13. (Once Amended) A method according to claim 1, wherein said requesting step is made by emitting from said terminal a signal of a predetermined characteristic and wherein said detecting is accomplished by a detecting device associated with said line unit.

14. (Once Amended) A method according to claim 1, further including the steps of: signaling a central processing unit (CPU) controlling said telephone network switch to effect an entry in a journal of said telephone network switch, and using said entry for billing for the communications path set up in response to said requesting step.

15. (Once Amended) A method according to claim 1, wherein said connect~~ion~~ing step through a portion of said line unit around a converter therein to a wide band switch is a virtual hard wired connection.

18. (Once Amended) A method comprising:

a. requesting from a customer premises terminal via a local link to a line unit and telephone network switch in a switched telephone network a communication path to a destination;

b. detecting , via a monitor, that the request seeks bandwidth in excess of that available through said line unit;

c. connecting said terminal through a portion of said line unit around a converter in said line unit to a wide band data switch connected to a data network.

19. (Once Amended) A method according to claim 18, wherein said portion of said line ~~card~~ unit comprises a concentrator network of said line ~~card~~ unit.

25. (Once Amended) A method according to claim 24, wherein said digital signal processor is indirectly associated with said line ~~card~~ unit.

26. (Once Amended) A method according to claim 23, wherein said digital signal processor is directly associated with said wide band data switch.

27. (Once Amended) A method comprising:

a. receiving a signal via a local link from customer premises in a telecommunications network connected by said local link to a program controlled switch in said telecommunications network;

b. making a determination, via a monitor, regarding a pre-established characteristic of said signal;

c. responsive to said determination, solid state switching said signal to digital signal processing and a wide band network edge device.

36. (Once Amended) A method according to claim 34, wherein said digital signal processing is performed in an adaptive digital signal processor with a programmed controller providing coding and decoding functions adapted to ~~a~~the

particular communication service requested by said signal and the physical level of signal protocol used over said local link from said customer premises.

37. (Once Amended) A communications network comprising:

a switched telecommunications network comprising trunked together program controlled switches connected to subscriber premises by local links;

line units connecting said local links to said switches, said line units including cross-point switches and converters performing digital coding and decoding (CODECs);

said line units having monitors detecting signals from said customer premises having a pre-established characteristic;

said line units having ports connected to said cross-point switches, said ports having connections to a wide band data switch connected to a data network, wherein when a monitor in one line unit detects signals from one subscriber premises having said pre-established characteristics, the cross-point switches, in the one line unit, switches signals through from the link to the one subscriber premises to one of said ports to said wide band data switch.

40. (Once Amended) A communications network according to claim 39, wherein the signals switched through said cross-point switches to said ports to said wide band data switch are hard-wired connected to said wide band data switch.

41. (Once Amended) A line unit for a switched telecommunications network comprising trunked together program controlled switches connected to subscriber premises by local links connected to the~~such~~ line units, said line unit comprising;

a line concentrator network for connection to a plurality of local links, said concentrator network including switches, and a high bandwidth port;

customer interface hardware;

a converter for converting signals on the plurality of local links to digital signals at a predetermined narrowband bit-rate; and

a monitor, for detecting a pre-designated signal on one of the plurality of local links and providing an output signal to said concentrator network to cause said concentrator network to provide a connection to said port for signals on the one link.

43. (Once Amended) A line unit according to claim 42, wherein the concentrator switches create a hard wired connection to said port for the one link.

45. (Once Amended) A line unit according to claim 41, including a digital signal processor with a programmed controller providing coding and decoding functions adapted to a service requested by the detected signal and the physical level protocol used over the one local link.

46. (Once Amended) A line unit for selective connection of a local link to a digital switch of a telephone network and a broadband data network, the line unit comprising:

a switch for connection to the local link, the switch comprising a first port for a narrowband communication and a second port for connection to the broadband data network; and

a monitor means for detecting a request for a broadband service and in response controlling the switch to connect the local link to the second port.

47. (Once Amended) A line unit as in claim 46, further comprising a channel circuit, coupled to the first port, for channeling signals for communication via the local link and a predetermined digital rate channel corresponding to the narrowband communication.

48. (Once Amended) A line unit for selective connection of a local link to a digital switch of a telephone network and a broadband data network, the line unit comprising:

a switch for connection to the local link, the switch comprising a first port for a narrowband communication and a second port for connection to the broadband data network;

a channel circuit, coupled to the first port, for channeling signals for communication via the local link and a predetermined digital rate channel corresponding to the narrowband communication; and

a monitor for coupling to the local link to detect a broadband service request, and in response, control the switch to connect the local link to the second port.

Marked-up Version of the Specification

1st full paragraph on page 3, lines 10-26 of the originally filed specification

This plant and methodology provided relative stability for an extended period of time. The calls were 1-2 minute calls whose time of occurrence was subject to estimation. However in the last several years there has been exponential growth in use of the Internet, where the hold time may be measured in hours. In addition, modern public communication networks increasingly need to provide customers with a range of communication services, from baseband voice service, to computer data communications, to high speed digital data communications for multimedia and the like. Yet many such services are seriously impeded or virtually blocked by existing telephone network line cards. These provide coding and decoding (CODEC) functions between analog and digital signals, and process digital signals only at the relatively low, fixed bit rate.